AMENDMENTS TO THE SPECIFICATION

Add the following paragraph at page 1 after the title.

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application is a National Phase entry of PCT Application No. PCT/GB03/01254 filed 24 March 2003 which claims priority to EP Application No. 02252503.4 filed 8 April 2002, both of which are incorporated herein by reference.

A substitute specification is submitted herewith.

Please replace paragraph [0004] with the following:

[0004] A solution for such a system is that gas and water which have been taken out of the well and which are separated at the surface can be pumped back to the seabed to be reinjected at the seabed into subsea wells. This reinjection reduces the rate of decline of the reservoir pressure allowing the field to produce ~~for~~ longer. To increase the rate of production, energy must be supplied to the production stream using either downhole or seabed methods.

Please replace paragraph [0014] with the following:

[0014] An alternative separation approach is a hydrocarbon/water separation system. The reason for separating the water from the hydrocarbon is that, when the wells are produced into the system, surface installations need not handle the increased volume of fluid, in particular, caused by the water. By reducing the water at the seabed, the surface installation can operate on a greater number of wells. Oil/water separators are usually gravity separators and require sufficient standing time for the hydrocarbons to float up and the water to sink down. The water is then pumped into a water injection well with the unassisted hydrocarbons flowing in a pipeline to the surface vessel. The gravity multiphase separator does not provide energy to the well stream, except by the effect of later allowing the elimination of the hydrostatic head caused by the removal of the partial pressure ~~exert~~ exerted by the water in the multiphase fluid. This approach is a solution to solve a specific field symptom such as a production fluid train bottleneck caused by a standard macro field system approach. To increase the production rate, the multiphase hydrocarbon flow can be pumped.

Please replace paragraph [0019] with the following:

[0019] The friction in a horizontal pipeline will cause the pressure in the fluid flow along the ~~pipelines~~ pipeline's length to decrease and therefore, even if all of the free gas is removed at the start

of the pipeline, a further release of gas will occur along the pipeline due to the pressure drop and this will collect and form a slug, especially in the upper part of an undulation in a pipeline. Each upper part of an undulation will cause a pressure drop in its own right, thereby resulting in a higher pressure being required at the head of the pipeline to move the fluid. To prevent this from occurring, the pressure of the fluid at the wellhead is preferably reduced beyond the lowest pressure point in the pipeline. Alternatively, if a certain amount of gas is required at the surface facility, then the pressure at the head of the pipeline need not be as low but against the penalty of having a higher wellhead flowing pressure.

Please replace paragraph [0025] with the following:

[0025] In the macro field concept, the producing wells are choked down to allow ~~comingling~~ commingling with the flow from the lowest pressured well. The commingled multiphase flow to a platform then enters a surface installation field separator to separate off the gas and to allow liquid pumps to pressurise efficiently the respective fluid phases to allow for production or re-injection. The pressure in a gas re-injection line or a water-reinjection line supplied by the surface installation has to be sufficiently high to meet the injection pressures of the highest pressurised injection well. This therefore requires chokes on the re-injection wells that have a lower injection pressure. This shows that in the macro field well stream system, energy is lost that ~~has then~~ then has to be replaced by pumping, and energy has to be provided to pump up the re-injection phases with a considerable amount being lost on the low pressured injection wells.

Please replace paragraph [0038] with the following:

[0038] The assembly preferably further comprises ~~of~~ a means for, in use, reinjecting surplus gas and water and possibly the solids slurry which have been separated either back into the reservoir or to a specified delivery point.

Please replace paragraph [0055] with the following:

[0055] In addition the process assembly may consider temperature control of the fluid in respect to insulation and a heat transfer system. When gas is de-pressurised, cooling will occur and when compressed, a temperature rise will occur. Maintaining a minimum temperature is important to prevent waxing, asphatines and hydrates forming in the system. Also, downstream of a pump, the energy used will have been converted [[in]]into waste heat. Beside insulation on the fluid containment hardware, a heat transfer system from the pump modules to especially the power drive units is recommended..

Please replace paragraph [0092] with the following:

[0092] In Figures 7 to 12 the gas liquid phase divider 80 is provided with a vortex mantel 89 and a vortex breaker 79. The column separator 82 is provided with a vortex ring 83 and a number of vortex plates or shrouds 84 (funnels 122, 126, 131 in Fig. 11~~, 122, 126, 131~~). The purpose of each of these items is to prevent coning occurring or a vortex from being formed. This occurs when a fluid has separated into two clear phases, either into different layers in a "standing" or plug flow environment or into cylindrical or conical boundaries in a rotating environment. In this case, there is a tendency when one phase is drawn off for a low pressure area to be created. As this pressure differential increases, the boundary layer between the two phases is drawn down or up and a break through is likely to occur and such an occurrence is undesirable.

Please replace paragraph [0106] with the following:

[0106] This encourages any remaining gas to collect in the centre and this is removed from the oil through a vertical gas axial funnel 122, which then redirects the gas centrifugally into the gas void 123 to the upper wall 124 of the housing such that the gas ~~exist~~ exits through gas line 125 and joins the main gas outlet line 104 from the second stage separator.

Please replace paragraph [0112] with the following:

[0112] For dual monitoring, it is proposed that a float 144 on a travel sensor 145 will register the gas/oil level 180. This will give a ~~continuos~~ continuous read out of the particular level. To back this up, it is proposed that high/high 146, high 147, low 148 and low/low 149 fixed sensors are provided. This will provide a cross reference check on the float reading.